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Indian Standard

**DIMENSIONS FOR
FIXING ARRANGEMENTS OF BUCKETS
FOR BUCKET ELEVATORS**

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 RAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

DIMENSIONS FOR FIXING ARRANGEMENTS OF BUCKETS FOR BUCKET ELEVATORS

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Indian Standard

DIMENSIONS FOR FIXING ARRANGEMENTS OF BUCKETS FOR BUCKET ELEVATORS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 October 1973, after the draft finalized by the Conveyors, Vertical Hoists and Bucket Elevators Sectional Committee had been approved by the Mechanical Engineering Division Council.

0.2 This standard lays down the fixing dimensions for fixing the buckets conforming to IS : 6833-1973* to fabric belt or chains and lays down twelve styles of punchings.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard lays down the dimensional requirements and fixing arrangements of buckets for bucket elevators for fixing to fabric belts or chains.

*Specification for buckets for bucket elevators.

†Rules for rounding off numerical values (revised).

2. FIXING DIMENSIONS

2.1 Fixing dimensions for buckets shall be as given in Tables 1 to 5 read with Fig. 1 to 4.

3. DESIGNATION

3.1 Buckets fixed to belts or chains shall be designated by letters 'B', 'C' or 'D' as given below and these fixing designations shall be included in the general bucket designation specified in IS : 6833-1973*:

- | | |
|--|----------|
| a) Fixing of buckets to belt | <i>B</i> |
| b) Fixing of buckets to chain
passing through back of
buckets | <i>C</i> |
| c) Fixing of buckets to chain
passing through sides of
buckets | <i>D</i> |

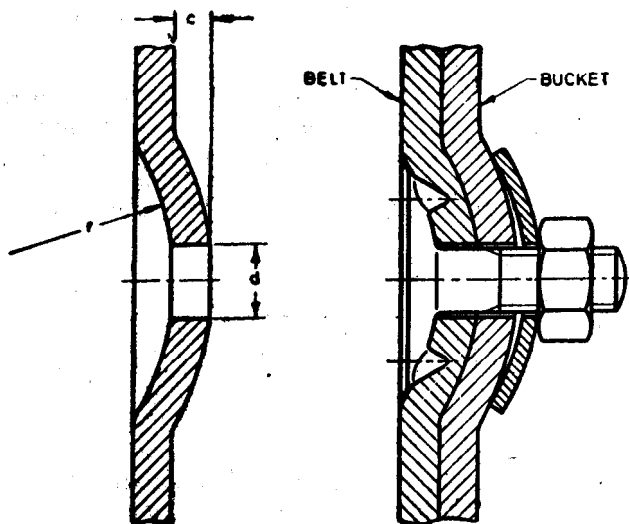


FIG. 1 FIXING OF BUCKETS TO BELTS

*Specification for buckets for bucket elevators.

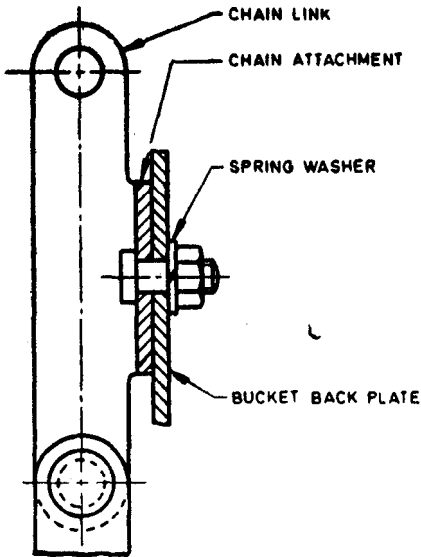


FIG. 2 FIXING OF BUCKET TO CHAIN PASSING THROUGH BACK OF BUCKET

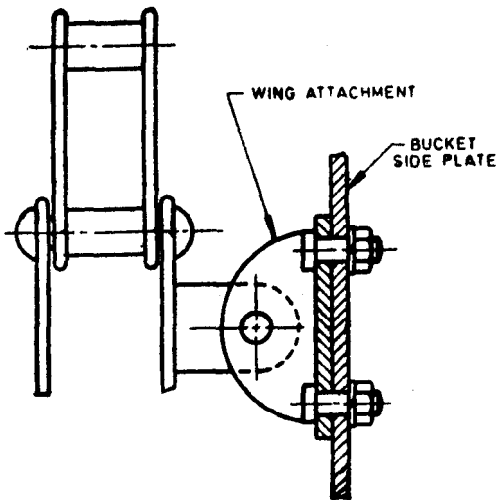
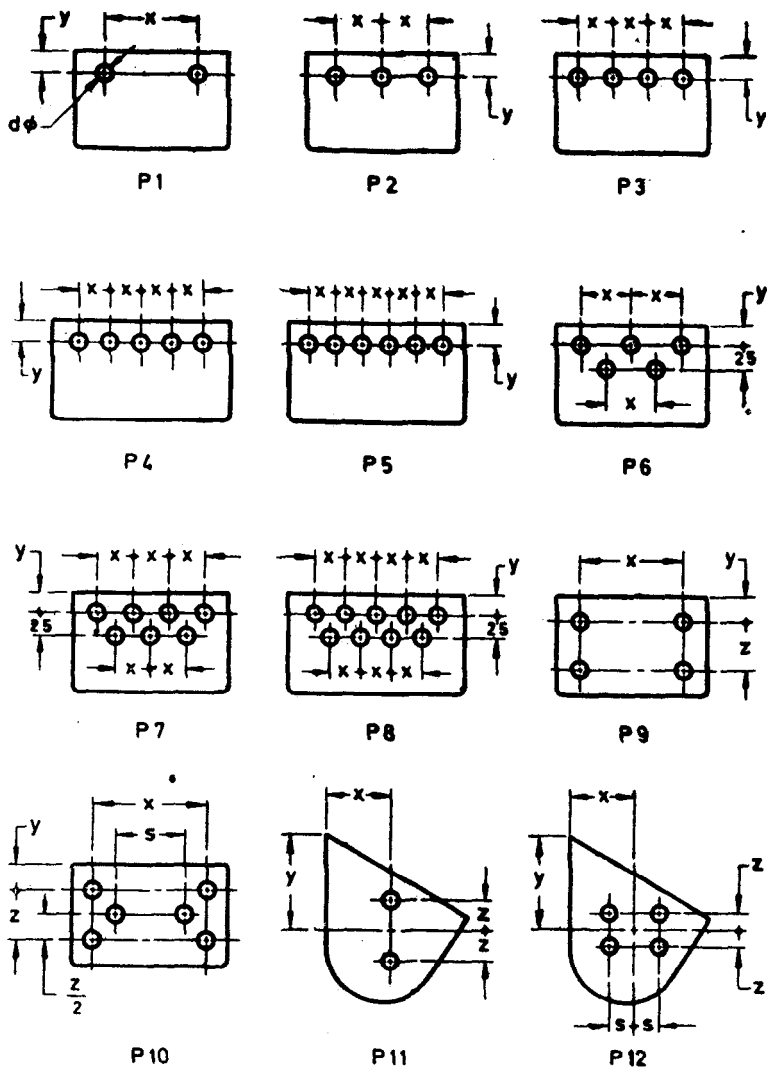


FIG. 3 FIXING OF BUCKET TO CHAIN PASSING THROUGH SIDES OF BUCKET



All dimensions in millimetres.

FIG. 4 STYLES OF PUNCHINGS

TABLE 1 FIXING DIMENSIONS FOR TYPES A1, A2, A3 AND A4 BUCKETS TO BELTS

(Clause 2.1, and Fig. 1 and 4)

All dimensions in millimetres.

BUCKET LENGTH	d*	c†	r†	SCREW‡ SIZE	TYPE A1 BUCKETS			TYPES A2, A3 AND A4 BUCKETS		
					Style of Punching	x§	y§	Style of Punching	x§	y§
150	7.0	3.0	25	M6	P1	105	18	P1	105	25
175	7.0	3.0	25	M6	—	—	—	P2	60	25
200	7.0	3.0	25	M6	P2	75	22	P6	75	22
250	9.5	4.0	32	M8	P2	105	22	P6	90	22
310	9.5	4.0	32	M8	P3	85	22	P6	110	22
360	9.5	4.0	32	M8	P4	75	22	P7	100	22
410	9.5	4.0	32	M8	P5	70	22	P7	110	22
460	11.5	5.0	40	M10	P5	80	25	P7	125	25
510	11.5	5.0	40	M10	P5	90	25	P8	100	25
560	11.5	5.0	40	M10	P5	100	25	P8	110	25
610	11.5	5.0	40	M10	P5	110	25	P8	125	25
800	14.0	6.5	50	M12	P8	150	30	P8	150	30
1 000	14.0	6.5	50	M12	P8	200	30	P8	200	30

*Refer to Fig. 1 and 4.

†Refer to Fig. 1.

‡According to IS : 6832-1973 Fixing screws and washers for buckets for bucket elevators.

§Refer to Fig. 4.

TABLE 2 FIXING DIMENSIONS FOR TYPES B1, B2, B3 AND B4 BUCKETS TO BELTS

(Clause 2.1, and Fig. 1 and 4)

All dimensions in millimetres.

BUCKET SIZE			STYLE OF PUNCHING	d^*	e^\dagger	r^\dagger	SCREW [‡] SIZE	$x^§$	$y^§$
Length	Projection	Depth							
150	75	145	P1	7	3	25	M6	105	85
200	125	195	P6	7	3	25	M6	75	85
250	150	195	P6	9.5	4	32	M8	90	85
250	180	310	P6	9.5	4	32	M8	90	140
310	180	310	P6	9.5	4	32	M8	110	140
310	200	310	P6	9.5	4	32	M8	100	140
360	180	310	P7	9.5	4	32	M8	100	140
360	200	310	P7	9.5	4	32	M8	100	140
410	200	310	P7	9.5	4	32	M8	110	140
460	200	310	P7	11.5	5	40	M10	125	140
460	300	460	P7	11.5	5	40	M10	125	215
510	250	310	P8	11.5	5	40	M10	100	140
510	300	460	P8	11.5	5	40	M10	100	215
610	250	310	P8	11.5	5	40	M10	125	140
610	300	480	P8	11.5	5	40	M10	125	215

*Refer to Fig. 1 and 4.

†Refer to Fig. 1.

‡According to IS : 6832-1973 Fixing screws and washers for buckets for bucket elevators.

§Refer to Fig. 4.

**TABLE 3 FIXING DIMENSIONS FOR TYPES A1, A2, A3 AND A4 BUCKETS TO CHAIN
PASSING THROUGH BACK OF BUCKETS**

(Clause 2.1, and Fig. 2 and 4)

All dimensions in millimetres.

BUCKET LENGTH	STYLE OF PUNCHING	BOLT* SIZE	d†	x‡	y‡	z‡	s‡
150	P1	M8	9.5	100	25	—	—
175	P1	M10	11.5	100	25	—	—
200	P9	M10	11.5	135	20	45	—
250	P9	M10	11.5	135	22	45	—
310	P9	M12	14.0	160	22	60	—
360	P9	M12	14.0	190	25	70	—
410	P9	M12	14.0	190	25	70	—
460	P9	M12	14.0	190	25	70	—
510	P9	M12	14.0	190	25	70	—
560	P9	M12	14.0	190	25	70	—
610	P9	M16	18.0	210	30	80	—
800	P10	M16	18.0	300	30	80	190
1 000	P10	M16	18.0	300	30	80	190

NOTE — Dimension x may be increased if desired by the purchaser to suit the chain to be used.

*According to IS : 2585-1968 Specification for black square bolts and nuts (diameter range 6 to 39 mm) and black square screws (diameter range 6 to 24 mm) (first revision).

†Refer to Fig. 2 and 4.

‡Refer to Fig. 4.

TABLE 4 FIXING DIMENSIONS FOR TYPES B1, B2, B3 AND B4 BUCKETS TO CHAIN PASSING THROUGH BACK OF BUCKETS

(Clause 2.1, and Fig. 2 and 4)

All dimensions in millimetres.

BUCKET SIZE			STYLE OF PUNCHING	BOLT* SIZE	d†	x‡	z‡
Length	Projection	Depth					
150	75	145	P1	M8	7.0	105	85
200	125	195	P9	M10	11.5	135	100
250	150	195	P9	M10	11.5	135	100
250	180	310	P9	M10	11.5	135	170
310	180	310	P9	M10	11.5	135	170
310	200	310	P9	M10	11.5	135	170
360	180	310	P9	M10	11.5	135	170
360	200	310	P9	M12	14.0	190	160
410	200	310	P9	M12	14.0	190	160
460	200	310	P9	M12	14.0	190	160
460	300	460	P9	M12	14.0	190	270
510	250	310	P9	M12	14.0	190	160
510	300	460	P9	M12	14.0	190	270
610	250	310	P9	M16	18.0	210	160
610	300	460	P9	M16	18.0	210	270

NOTE — Dimension x may be increased if desired by the purchaser to suit the chain to be used.*According to IS : 2585-1968 Specification for black square bolts and nuts (diameter range 6 to 39 mm) and black square screws (diameter range 6 to 24 mm) (*first revision*).

†Refer to Fig. 2 and 4.

‡Refer to Fig. 4.

**TABLE 5 FIXING DIMENSIONS FOR TYPES A2, A3 AND A4 BUCKETS TO CHAIN
PASSING THROUGH SIDES OF BUCKETS**

(Clause 2.1, and Fig. 3 and 4)

All dimensions in millimetres.

BUCKET LENGTH	A2 BUCKET					A3 BUCKET					A4 BUCKET					BOLT SIZE	d†
	Style of Punching	x*	y*	z*	s*	Style of Punching	x*	y*	z*	s*	Style of Punch- ing	x*	y*	z*	s*		
150	P11	40	60	22	—	P11	35	80	22	—	P11	30	55	22	—	M8	9.5
175	—	—	—	—	—	P11	35	80	22	—	—	—	—	—	—	M8	9.5
200	P12	50	70	20	25	P11	35	80	22	—	P11	30	55	22	—	M8	9.5
250	P12	60	80	20	25	P11	40	90	22	—	P12	50	65	18	30	M8	9.5
310	P12	60	100	20	30	P12	55	125	18	30	P12	50	65	18	30	M8	9.5
360	P12	60	100	20	30	P12	55	125	18	30	P12	65	70	18	30	M8	9.5
410	P12	75	110	30	50	P12	70	160	18	30	P12	65	70	18	30	M10	11.5
460	P12	75	110	30	50	—	—	—	—	—	—	—	—	—	—	M10	11.5
510	P12	75	110	30	50	—	—	—	—	—	—	—	—	—	—	M10	11.5
560	P12	75	110	30	50	—	—	—	—	—	—	—	—	—	—	M10	11.5
610§	P12	75	110	30	50	—	—	—	—	—	—	—	—	—	—	M10	11.5
610	P12	95	135	40	50	—	—	—	—	—	—	—	—	—	—	M12	14
800	P12	95	135	40	50	—	—	—	—	—	—	—	—	—	—	M12	14
1 000	P12	95	135	40	50	—	—	—	—	—	—	—	—	—	—	M12	14

*Refer to Fig. 4.

†According to IS : 2585-1968 Specification for black square bolts and nuts (diameter range 6 to 39 mm) and black square screws (diameter range 6 to 24 mm) (first revision).

‡Refer to Fig. 3 and 4.

§For bucket size 610 × 200 × 215.

||For bucket size 610 × 255 × 270.

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